Zacks Small-Cap Research

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Akoustis Tech (AKTS-OTC)

AKTS: Akoustis Buys MEMS Fab for a Song

We believe the stock could be worth $10.91 per share based on an industry average of 4.2X EV to sales by FY 2019 if sales targets are met and given its current production schedule and cash needs.

Current Price (03/23/17)	$9.49
Valuation	**$10.91**

OUTLOOK

Akoustis is a pre-revenue start-up. It has started to penetrate the high growth market for RF filters with its technical advantages against the competition. Its seasoned management, IP protection, and progress to date, should allow it is able to bring its product to market and capture market share. It has signed two customers and expects product delivery later this year at its newly acquired fab. Investors may benefit either through stock appreciation as the business takes shape and generates sales, or via an acquisition of the company by strategic investors seeking a leading edge IP-protected BAW solution to fill in their product lines or provide a competitive advantage.

SUMMARY DATA

52-Week High	**$9.49**
52-Week Low	**$1.85**
One-Year Return (%)	**377**
Beta	**-0.5**
Average Daily Volume (sh)	**32,671**
Shares Outstanding (mil)	**18.2**
Market Capitalization ($mil)	**$172**
Short Interest Ratio (days)	**N/A**
Institutional Ownership (%)	**15.0**
Insider Ownership (%)	**32.0**
Annual Cash Dividend	**$0.00**
Dividend Yield (%)	**0.00**
5-Yr. Historical Growth Rates	
Sales (%)	**N/A**
Earnings Per Share (%)	**N/A**
Dividend (%)	**N/A**
P/E using TTM EPS	**N/M**
P/E using 2017 Estimate	**N/M**
P/E using 2018 Estimate	**N/M**

Risk Level	**High**
Type of Stock	**Small-Growth**
Industry	**Semi-Radio Freq**

ZACKS ESTIMATES

Revenue
(in millions of $)

	Q1 (Sep)	Q2 (Dec)	Q3 (Mar)	Q4 (Jun)	Year (Jun)
2015	$0.0 A	$0.0 A	$0.0 A	$0.0 A	$0.0 A
2016	$0.0 A	$0.0 A	$0.0 A	$0.0 A	$0.0 A
2017	$0.0 A	$0.1 A	$0.1 E	$0.1 E	$0.6 E
2018					$11.5 E

Earnings per Share
(EPS is non-GAAP earnings before non-recurring items)

	Q1 (Sep)	Q2 (Dec)	Q3 (Mar)	Q4 (Jun)	Year (Jun)
2015	-$0.03 A	-$0.03 A	-$0.01 A	-$0.08 A	-$0.16 A
2016	-$0.08 A	-$0.08 A	-$0.04 A	-$0.08 A	-$0.34 A
2017	-$0.09 A	-$0.12 A	-$0.06 E	-$0.09 E	-$0.43 E
2018					-$0.38 E

Zacks Projected EPS Growth Rate - Next 5 Years % **N/A**

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WHAT'S NEW

Today Akoustis announced the acquisition of a MEMS fab with $200 million in capacity for $2.75 million in cash located in upstate New York. This deal is expected to close on or about June 30, 2017. The facility includes 57 acres in Canandaigua, NY as well as a 120,000 square foot commercial wafer-manufacturing facility, with Class 100/Class 1000 cleanroom space, and improvements associated with the manufacturing facility, 150-mm silicon MEMS wafer fab operations, including semiconductor manufacturing tools, an existing silicon- based MEMS business. The facility has Trusted Foundry accreditation for MEMS processing, packaging, and assembly.

In the past year the operation generated approximately $3.0 million from five to ten customers, who are expected to remain, and has 30 employees. There are also two existing tenants with multi-year leases. The operation is believed to be burning approximately $500,000 a quarter, but the company expects to recoup that by saving on the cost of outsourcing production. Akoustis also hopes to increase third party revenues by investing in marketing. Current customers include a leader in RF and SoC, a Tier 1 OEM, and a handful of companies involved in optical, telecom, and GPS.

As the company is purchasing the facility from government entities there will be an extensive auditing work to be done and full financials will be available 70 days after closing. Akoustis is currently negotiating with state and local officials for tax abatements and incentives as well as with the utility companies. Given the extremely low price, we expect the company to report a large gain on purchase when the company reports the September quarter.



Akoustis bought this facility for three main reasons:

- It allows the company to reduce its cycle times from eight weeks. The goal is two to three weeks.
- Increases capacity to over four to five times of its current outsource provider.
- Allows it to control its intellectual property by bringing production, control, and materials in-house.

Raising Revenue Estimates

Assuming the deal closes at the end of June, we are adding on $3 million in sales to the 2018 FY revenues. Hopefully by then revenues can start to grow, but we will keep third party revenue estimates low until the company had renegotiated contracts with current customers and has a better handle on prospects. Expenses should increase one the deal closes as the company adds costs for the facility before a large

revenue ramp. We will refine this once the company reports actual audited information in Q3 and we have a better handle on incremental revenues and expenses.

We are raising FY 2017 revenues to $11.5 million but given all the variables associated with a start up, this has a wide degree of error as it is. We are reducing the loss per share by a penny subject to change when final numbers come out.

KEY POINTS

- Akoustis is a pre-revenue start-up created to penetrate the rapidly growing Bulk Acoustic Wave (BAW) RF Filter market with innovate IP-protected technology that should improve performance at lower cost.
- The company just bought a MEMS fab to build product for itself and third parties. This should improve margins and time to market as well as protect IP.
- It is targeting the market for BAW RF filters used in smartphones and high end Wi-Fi routers.
- Its seasoned management and directors come from the companies it seeks to displace. Members of the team have already successfully created, and then sold, other start-ups.
- The BAW market is projected to grow at ~20% per year for the next five years, as more and more RF filters per phone will be needed to support faster and faster networks.
- The BAW market, dominated by Broadcom (AVGO), is ripe for disruption due to limited innovation and high prices derived from an IP-protected near-monopoly.
- Akoustis stock is a way for public company investors to participate in a technology start-up venture that could grow into a major player, or be an attractive acquisition for a large RF filter or semiconductor manufacturer selling to the smartphone market that would like a proprietary BAW solution. **The company's current enterprise value is $162 million** and we believe it should be able to capture significant market share in the multi-billion dollar high growth BAW filter market it is entering.

OVERVIEW

Industry executives, and scientists from University of California at Santa Barbara (UCSB) and Cornell University founded Akoustis as a start-up in 2014. It is located in Huntersville, North Carolina and currently employs 15 direct people and 12 contractors. It was created to commercialize and manufacture its patent-pending Bulk ONE™ acoustic wave technology. Bulk Acoustic Wave (BAW) resonators are used in RF filters found in the high-band transmit-receive section of LTE smartphones (4G and above). Akoustis' technology improves the functionality of BAW filters by using **single crystal** piezoelectric materials rather than the thin film **polycrystalline** technology that is used by the rest of the industry. This single crystal method results in filters that provide **wider bandwidth and lower insertion loss than currently available products resulting in next generation smartphones with less dropped calls and longer battery life**. Additionally, Akoustis' single crystal approach is unique; it is differentiated from the polycrystalline technology currently in use that is patent protected and results in limited competition. The company is designing its products and has just bought a fab to produce them that will add another 30 employees. The market for RF filters in mobile phones using BAW resonators was a $1.6B market in 2015 and is expected to grow to $3.7 billion by 2020, a 18.3% CAGR, according to Mobile Experts 2015 Report

FUTURE MILESTONES

- Production release of the first BAW filter products to its Chinese customer
- Deliver product to the military
- Off the shelf product available

VALUATION

Akoustis is currently trading at an enterprise value of $162 million up from $104 million at our last report. As a start-up we believe that Akoustis should be valued first on revenues to enterprise value focusing on later years. Its competitors are much larger companies and are trading in a range of 2.9x to 5.2x enterprise value to sales with an average of 4.2 times estimated 2017 calendar year sales. We believe that Akoustis could reach $60 million in sales by FY 2020. Therefore by the end of FY 2019, we believe the stock could be worth $10.91 per share given the cash and debt levels on the balance sheet at that point are similar to today as well as the share count.

Company	Ticker	Calendar Revenue 2017E	LTM	EBIDTA Margin	Enterprise Value / Sales 2017E	Enterprise Value / Sales LTM	Included in Average?	Enterprise Value
Broadcom	AVGO	17,300	15,610	30%	5.2	5.8	y	90,070
MediaTek	2454.TW	9,200	9,040	11%	0.9	1.0	n	8,678
Murata Manufacturing	MRAAY	NA	9,810	28%	NA	2.8	n	27,200
Qorvo	QRVO	3,091	3,000	28%	2.9	3.0	y	8,910
Resonant	RESN	0	0	NM	NM	407.7	n	47
Skyworks Solutions	SWKS	3,664	3,280	42%	4.5	5.0	y	16,490
Average				33%	4.2	4.6		38,490

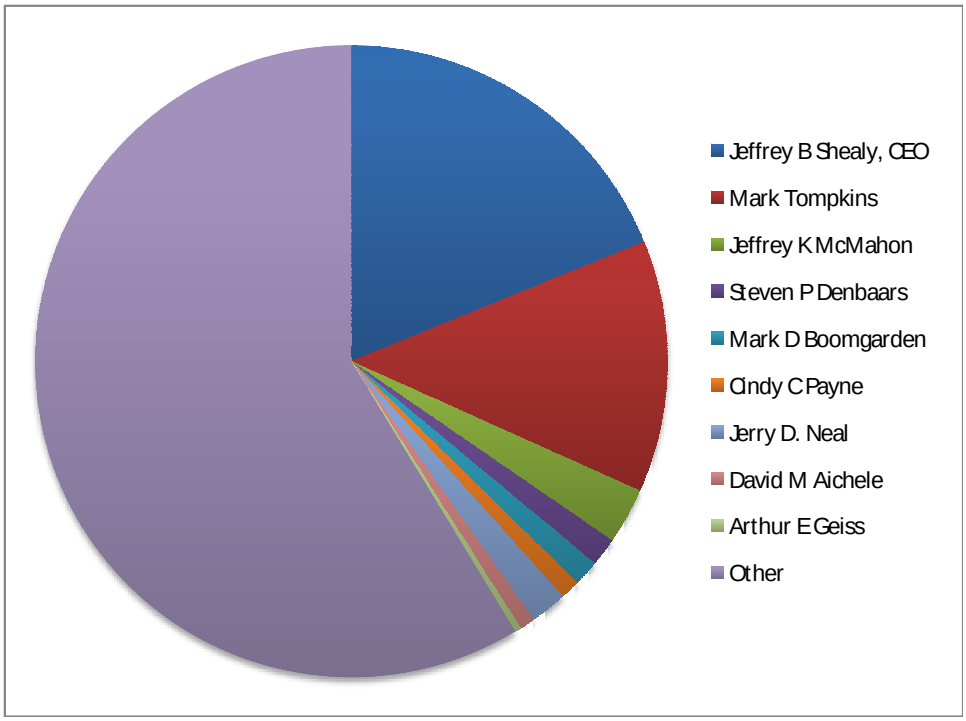
	Projected Revenue 2020E	Projected Revenue 2019E	EBITDA Margin	Enterprise Value / Sales 2020E	Enterprise Value / Sales 2019E	Valuation Range Low	Valuation Range High
Akoustis	60	30	NM	4.2	4.6	138	252
YoY growth							

Conclusion of Enterprise Value	**$194,731,956**
Market Value	**$205,635,629**
Shares All In	18,842,000
Price per Share	**$10.91**

RISKS

- The company is a start-up and is pre-revenue. Investors should not expect any revenues from RF filters or resonators to be generated until the second half of 2017 at the earliest.
- The company may need to raise more cash in addition to receiving government grants to sustain its business until it can reach breakeven which will dilute current investors.
- There is no assurance the company can successfully scale up production of its products to achieve commercial volumes or profitably run a fab.
- Most of the company's intellectual property is in filed patents that have not yet been granted and there can be no assurance they will be granted.
- Its competitors are multi-billion companies with much greater resources and proven products.
- The company has signed only two customers for its products and those customers may not generate meaningful revenues until 2018.

OWNERSHIP As of March 24, 2017



INCOME STATEMENT

	Q1 Sep. 30, 2015	Q2 Dec. 31, 2015	Q3 Mar 31, 2016	Q4 June 30, 2016	Q1 Sep. 30, 2016	Q2 Dec. 30, 2016	Q3 Mar 31, 2017E	Q4 June 30, 2017E	FY 2016	FY 2017E	FY 2018E
Revenue	$0	$0	$0	$0							
Product revenue					$0	$0	$0	$100,000	$0	$100,000	$11,500,000
Grant income	0	0	234,334	20,500	0	159,068	147,600	0	254,834	306,668	0
Total revenue			**234,334**	**20,500**		**159,068**	**147,600**	**100,000**	**254,834**	**406,668**	**11,500,000**
Cost of goods	0	0	0	0	0	0	0	$90,000	0	90,000	8,330,000
Gross margin	0	0	234,334	20,500	0	0	147,600	$10,000	254,834	316,668	3,170,000
Percent of sales	100%	100%	100%	100%	100%	100%	100%	10%	100%	78%	28%
Operating expenses											
R&D	321,720	351,892	354,667	709,314	652,576	775,984	850,000	$ 1,100,000	1,758,701	3,378,560	4,400,000
G&A	761,323	724,481	501,869	968,734	1,263,243	2,066,768	2,100,000	2,100,000	2,935,299	7,530,011	9,900,000
Total operating expenses	1,083,043	1,076,373	856,536	1,678,048	1,915,819	2,842,752	2,950,000	3,200,000	4,694,000	10,908,571	14,300,000
Loss from operations	(1,083,043)	(1,076,373)	(856,536)	(1,657,548)	(1,915,819)	(2,842,752)	(2,802,400)	(3,190,000)	(4,439,166)	(10,591,903)	(11,130,000)
Operating margin			-366%	-8086%		-1787%	-1899%	-3190%	-1742%	-2605%	-97%
Other income											
Other income	0	0	500	0	0	0	0	0	500	0	0
Interest income	496	352	305	186	90	209	300	250	1,339	849	750
Change in fair value of der liab	14,015	5,414	(127,994)	(860,275)	(157,216)	(712,246)	(50,000)	0	(968,840)	(919,462)	0
Total other income	14,511	0	107,145	(839,589)	(157,126)	(552,969)	97,900	250	(712,167)	(611,945)	750
Net loss	(1,068,532)	(1,070,607)	(749,391)	(2,497,137)	(2,072,945)	(3,395,721)	(2,704,500)	(3,189,750)	(5,151,333)	(11,203,848)	(11,129,250)
Net loss per share	**$ (0.09)**	**$ (0.09)**	**$ (0.05)**	**$ (0.17)**	**$ (0.13)**	**$ (0.21)**	**$ (0.15)**	**$ (0.18)**	**$ (0.39)**	**$ (0.69)**	**$ (0.61)**
Shares outstanding	12,392,115	12,768,358	14,000,000	15,111,088	15,701,709	15,892,503	18,171,000	18,171,000	13,349,482	16,219,075	18,171,000
Yr-to-yr Growth	126%	132%	155%	93%	27%	24%	30%	20%	114%	21%	12%
Share based compensation	28,275	81,423	331,492	435,642	704,220	1,543,642	1,543,642	1,543,642	849,625	4,227,146	4,227,146
Non-GAAP Loss	(1,026,242)	(983,770)	(545,893)	(1,201,220)	(1,368,725)	(1,852,079)	(1,160,858)	(1,646,108)	(4,301,708)	(6,976,702)	(6,902,104)
Non-GAAP EPS	**$ (0.08)**	**$ (0.08)**	**$ (0.04)**	**$ (0.08)**	**$ (0.09)**	**$ (0.12)**	**$ (0.06)**	**$ (0.09)**	**$ (0.32)**	**$ (0.43)**	**$ (0.38)**

BALANCE SHEET

	Dec. 31, 2016	Sept 30, 2016	% Change
Assets:	**Pro- forma**		
Cash and cash equivalents	$ 11,300,501	$ 3,054,308	270%
Accounts receivable	$ 29,000	$ 0	NM
Inventory	43,185	43,544	-1%
Prepaid expenses	93,249	93,699	0%
Total current assets	11,465,935	3,191,551	259%
Property and equipment, net	625,580	214,393	192%
Intangibles, net	107,771	83,607	29%
Other assets	20,715	130,715	-84%
Total Assets	12,220,001	3,620,266	238%
Current Liabilities:			
Accounts payable and accrued expenses	918,370	837,116	10%
Deferred revenue	29,000	0	NM
Total current liabilities	947,370	837,116	13%
Long-term Liabilities:			
Derivative liabilities	396,828	1,479,945	-73%
Total Liabilities	1,344,198	2,317,061	-42%
Stockholders' Equity			
Common Stock	17,959	15,829	13%
Additional paid in capital	23,001,323	10,035,134	129%
Accumulated deficit	(12,143,479)	(8,747,758)	39%
Total Stockholders' Equity	10,875,803	1,303,205	735%
Total Liabilities and Stockholders' Equity	12,220,001	3,620,266	238%
Net cash	$11,300,501	$3,054,308	270%
Current ratio	12.1	3.8	217%
Quick ratio	12.1	3.8	221%
Cash as % of assets	92%	84%	10%
Working Capital	10,518,565	2,354,435	347%
Market cap	172,442,790	88,687,094	94%
Enterprise value	161,539,117	87,112,731	85%
Stock price	$9.49	$5.60	69%

CASH FLOWS

	3 Months Ended 30-Jun-15	3 Months Ended 30-Sep-15	3 Months Ended 31-Dec-15	3 Months Ended 31-Mar-16	3 Months Ended 30-Jun-16	3 Months Ended 30-Sep-16	3 Months Ended 31-Dec-16
Net loss	$ (822,297)	$ (1,068,532)	$ (1,070,607)	$ (749,391)	$ (2,517,637)	$ (2,072,945)	$ (3,395,721)
Adjustments to reconcile net loss to net cash used in operating activities:							
Depreciation	2,632	4,530	8,456	10,417	11,425	12,885	12,949
Amortization of intangibles	506	1,034	378	796	1,131	1,350	1,762
Share-based compensation	198,454	28,275	81,423	331,492	435,642	704,220	1,543,642
Change in fair value of derivative liabilities	(1,571)	(14,015)	(5,414)	127,994	860,275	157,216	712,246
Changes in operating assets and liabilities:							
Accounts receivable	0	0	0	0	0	0	(29,000)
Inventory	30,521	0	0	(43,544)	0	0	359
Prepaid expenses	(40,812)	5,190	(13,265)	8,426	4,643	(38,881)	450
Other assets	(8,000)	(8,100)	(42,155)	50,255	0	(120,000)	110,000
Accounts payable and accrued expenses	64,075	255,373	131,730	(243,372)	104,179	289,036	(44,927)
Deferred revenue	0	0	0	0	0	0	29,000
Net Cash Used In Operating Activities	(576,492)	(796,245)	(909,454)	(506,927)	(1,100,342)	(1,067,119)	(1,059,240)
CASH FLOWS FROM INVESTING ACTIVITIES:							
Cash paid for machinery and equipment	(18,761)	(103,957)	(19,450)	(1,265)	(35,500)	(20,293)	(424,136)
Cash paid for intangibles	(4,617)	(14,873)	(2,028)	(14,879)	(11,715)	(13,724)	(25,926)
Net Cash Used In Investing Activities	(23,378)	(118,830)	(21,478)	(16,144)	(47,215)	(34,017)	(450,062)
CASH FLOWS FROM FINANCING ACTIVITIES:							
Borrowings from promissory note	0	0	0	0	0	0	0
Repayment of promissory note	0	0	0	0	0	0	0
Proceeds from the exercise of warrants	0	0	0	0	10,000	0	0
Proceeds from issuance of Common Stock	4,241,627	0	0	769,687	2,562,896	0	3,456,460
Net Cash Provided By Financing Activities	4,241,627	0	0	769,687	2,572,896	0	3,456,460
Net Increase in Cash	3,641,757	(915,075)	(930,932)	8,426	1,425,339	(1,101,136)	1,947,158
Cash - Beginning of Period	687,739	4,329,496	3,414,421	2,483,489	2,730,105	4,155,444	3,054,308
Cash - End of Period	4,329,496	3,414,421	2,483,489	2,730,105	4,155,444	3,054,308	5,001,466
Cash Paid During the Period for:							
Income taxes	0	0	0	0	0	0	0
Interest	0	0	0	0	0	0	0
SUPPLEMENTARY DISCLOSURE OF NON-CASH INVESTING AND FINANCING ACTIVITIES:							
Stock compensation payable	27,206	37,450	24,942	11,447	72,177	74,457	134,242
Warrants issued for stock issuance costs	206,715	0	0	0	165,719	0	107,432
Conversion of convert notes into Common Stock	655,000	0	0	0	0	0	0
Reclassification of der. liab. to add paid in capital	0	0	0	0	16,974	0	1,795,363
Cash flow	(622,276)	(1,048,708)	(985,764)	(278,692)	(1,209,164)	(1,197,274)	(1,125,122)
Free cash flow	(645,654)	(1,167,538)	(1,007,242)	(294,836)	(1,256,379)	(1,231,291)	(1,575,184)

HISTORICAL STOCK PRICE



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